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(56) Documents Cited
WO 96/38065 A WO 94/09672 A FR 002406402 A
US 5566871 A US 3883053 A

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(54) Abstract Title
Shoulder strap with inflatable insert

(57) A shoulder strap 5 has an internal pocket into which can be inserted an airtight bag filled with compressed air, made from a supple, strong non-porous material such as polyurethane. The air cushioning makes the strap comfortable to wear whilst carrying a heavy load. Should the insert become punctured then a new one can easily be placed into the strap via opening 6. This opening can be optionally sealed with poppers, a zip, or hook and pile material. The insert can be made from two sheets welded together, or from a ready made tube. The insert can be divided into sections by weld lines, these sections either being totally sealed from one another, or having small gaps allowing air to pass between adjacent sections.

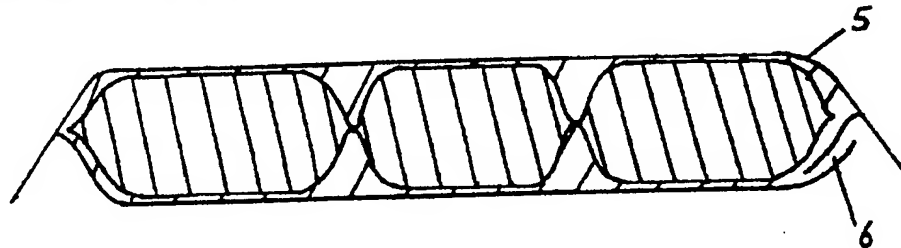


Fig 4

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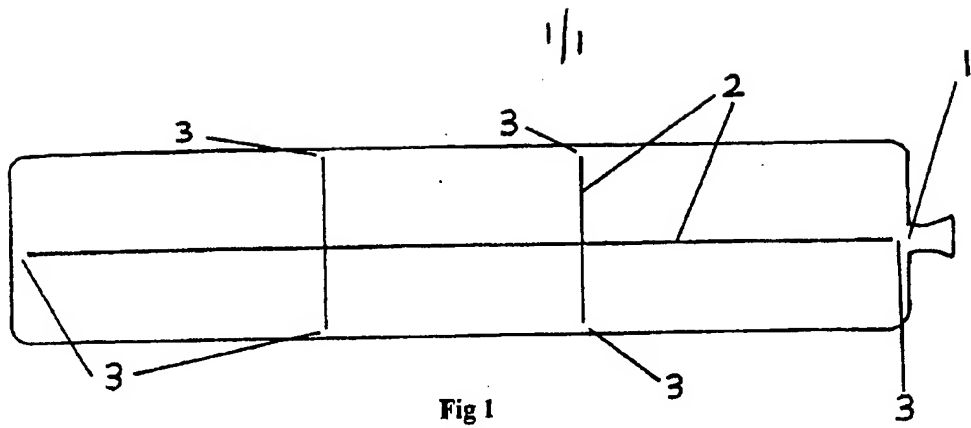


Fig 1

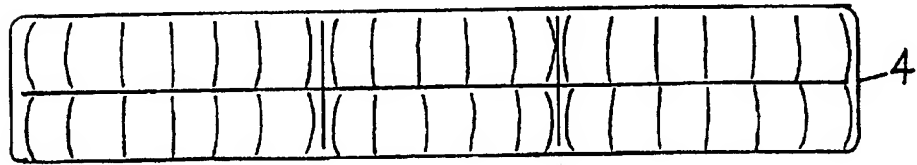


Fig 2

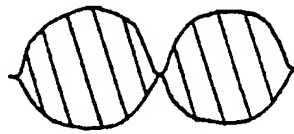


Fig 3

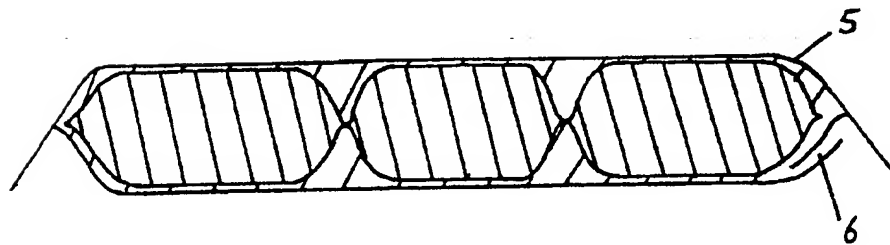


Fig 4

**SHOULDER STRAP WITH REPLACEABLE CUSHIONED INSERT FOR
GOLFBAGS, RUCKSACKS AND ANY OTHER CARRY BAGS.**

This invention relates to shoulder straps, with replaceable cushioned inserts, for golf bags, rucksacks and any other carry bags.

Shoulder straps are used as a convenient way of carrying heavy bags. Golf bags normally have one shoulder strap but sometimes have two. Rucksacks and baby carriers, for instance, are usually fitted with two shoulder straps.

Shoulder straps, however, often become uncomfortable after a time, especially when carrying a heavy weight.

According to the present invention there is provided a shoulder strap with an opening for a replaceable insert which is made of supple, non-porous material formed into an airtight bag filled with compressed air.

The insert can be made using walls made of a single layer of material or two or more layers. The thickness of material and the number of layers used will affect the resistance to accidental puncture of the insert.

The insert may be made of one complete tube or it could be constructed with sections. These sections could be totally separate and sealed off from one another. If one section is accidentally punctured the other sections would remain inflated. Alternatively the insert could have sections which are not totally separate from each other (if a gap is left between each section). This would allow the air to pass between sections when the insert is under pressure i.e., when the shoulder strap is in use. This method could make the insert more malleable and able to spread the load throughout its length and width.

A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawing in which:-

Figure 1 shows in plan view, the insert prior to inflation;

Figure 2 shows in plan view, the insert after inflation;

Figure 3 shows a cross section of the inflated insert; and

Figure 4 shows a cross section (lengthways) of the insert inside the outer cover of the strap.

Two sheets of polyurethane are welded together using a HIGH FREQUENCY WELDING TOOL with a "tear" seal on the outside.

As shown in Fig 1 of the drawing the insert is formed first leaving a small gap 1 in the outside seam. At the same time seams 2 are welded along the length and width which would allow the insert not to form a 'sausage' shape when inflated and also to have a 'hinged' effect which would fit comfortably over the shoulder. Gaps 3 are left between the inner and outer seams in order to allow the air to pass between sections when inflated.

Air is blown into the insert between the middle layers via the small gap 1 and this gap is then sealed off with another weld as shown in Fig 2, 4.

As shown in Fig 4 the outer cover 5 of the shoulder strap has an opening 6 on its underside at one end to allow the insert to be placed in position. This opening can be sealed by means of "velcro", "poppers", zip, button or could be left open as a flap. Being on the underside of the strap the opening would have a tendency to remain closed.

The purpose of an opening in the shoulder strap is that should the insert be accidentally punctured a replacement could easily be fitted.

Another specific embodiment of the invention is made as above but including a one-way valve through which the insert would be inflated.

A further specific embodiment of the invention is made as previously described but using polyurethane tubing instead of sheets. This means that there is, in this instance, no need for a complete outside welded seam.

CLAIM

A shoulder strap with a replaceable insert. The insert being made of supple, non-porous material formed into an airtight bag filled with compressed air.

Amendments to the claims have been filed as follows

1. A shoulder strap for bags, having means for receiving an insert, the insert comprising a sealed inflated air sack of supple non-porous material, and an opening in the strap to enable replacement of the air sack.
2. A shoulder strap according to Claim 1, wherein the air sack is divided into compartments with internal gaps to allow air to flow between the compartments.
3. A shoulder strap according to Claim 1 or Claim 2, wherein the opening is on the underside of the strap when worn.
4. A shoulder strap according to any preceding claim, wherein the opening is adjacent one end of the strap.
5. A shoulder strap according to Claim 2, wherein the internal gaps are provided between inner and outer seams defining the compartments.
6. A shoulder strap according to Claim 5, wherein an inner seam extends across the width of the strap to provide a hinge effect for the insert.
7. A shoulder strap according to any preceding claim, wherein the insert is formed from one or more sheets of polyurethane sealed and seamed by high frequency welding.

8. A shoulder strap according to any preceding claim, wherein the opening is provided with closure means.

9. A shoulder strap according to any preceding claim, wherein the insert includes an inflation valve.



The Patent Office

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Claims searched: 1

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Patents Act 1977 Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK CI (Ed.O): A3V

Int CI (Ed.6): A45C
A45F

Other: Online: World Patents Index

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	WO 96/38065 A1 (MAROQUINERIE DU FOREZ S.A.) whole document relevant	sole
A	WO 94/09672 A1 (SOCIETE NOUVELLE MILLET) whole document relevant	
X	US 5566871 A (MARVIN H. WEINTRAUB) whole document relevant	sole
A	US 3883053 A (PRITCHARD AND LOVELACE)	
X	FR 2406402 A1 (LEXINGTON PRODUCTS LIMITED) whole document relevant	sole

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